1: Bowen-Jones et al. K-5 (1955-1958) 1961
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D. SEABORNE AND AIRBORNE TRAFFIC 1958[3].

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	Total - Calling - British				Passengers (No.)			Freight (Tons)	
	Number	Tonnage	Number	Tonnage	In	Out	Transit	In	Out
Steam Vessels	1,792	2,808,803	458	1,346,925)	9,852	10,745	35,175	588,826	54,927
Sailing Vessels	267	22,836	15	122)					
Aircraft	3,283	91,661	3,116	87,897	30,232	31,501	28,848	588	238

E. AGRICULTURE[4]

		Acreage	Yield-tons
(i)	Total Area cultivated	44,235	
(ii)	Wheat	5,000	3,000
	Barley and Mixta	4,083	2,158
	Forages (inc. sulla, vetches & Ferrana)	11,824	3,855
	Broad Beans	1,250	500
(iii)	Potatoes - Spring crop	4,763* (1957-6,000)	15,420
	- Winter crop	3,228	7,360
	Melons	1,837	1,939
	Onions	1,263	3,389
	Tomatoes	1,912	8,588
	Other vegetables	5,000	16,198
(iv)	Grapes	5,000	6,000**
	Citrus	160	500**
	Other fruit	1,000	6,000**
(v)	Cotton	3 (1956-187)	1
	Cumin Seed	8 (1952-518)	2

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* Note. Abnormally low.
** Note. Acreage and yield of treecrops in particular should be treated as indicating only orders of magnitude.

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(vi)	Livestock (Enumeration)		
	Horses, Donkeys and Mules	6,575	
	Goats	36,944(1950-50,159)	
	Sheep	15,011(1950-20,148)	
	Imported Store bulls	3,081	
	Milk cows	4,178(1950- 2,861)	
	Other cattle	2,466	
	Swine	16,362	
(vii)	Number of holdings		12,192
	Number of mechanized implements	- 2 wheeled	700
		- 3 & 4 wheeled	54
		- tracked	25
		- milking machines	7
		- threshers	22

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Plate XIX. Tillage - traditional style.

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Plate XX. Tillage - new style.

1: Bowen-Jones et al. K-5 (1955-1958) 1961
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question unless a complete agricultural revolution committed Maltese farming to thorough-going dairy farming specialisation. Such specialisation, given the climatic and physiological difficulties, would not be easy to justify. A very considerable seasonal glut of milk exists between May and August at present, and the Milk Marketing Undertaking cannot handle the flush. This degree of fluctuation could be lessened but not removed. Costs of production are such that not only would exports be uneconomic but imported tinned milk can and could considerably undercut home production. Local consumption of fresh cows' milk could not be expanded much more than 10 to 15 per cent. above the present level which is already the highest in the Mediterranean, as long as tinned milk is more easily preserved, and as long as the rural community keeps goats and sheep. The banning of milk imports and of the production of goat milk would hardly be in the consumer's economic or dietetic interests.

Horses, mules and donkeys, some 6,500 in number, are still very important as work animals. For farm transport, they can only be replaced by the internal combustion engine purchasable only by the more prosperous cultivators. Produce collection by merchants' lorries is increasing as also is the use of hired tractors for cultivation. The numbers of these animals is unlikely to decrease quickly outside the urban areas because of their usefulness in tilling difficult land.

Of the remaining small livestock, rabbits and poultry already make a very large although immeasurable contribution to food supplies. Improvements in quality could be obtained if farmers' interest was aroused. At present, mixed breeds of poor poultry are commercially uneconomic.

In conclusion, we must return to the vexed question of dairy-farming and milk production in Malta. In 1950, the Director of Agriculture (1) put the question: 'Under prevailing conditions in Malta and Gozo, which is the more profitable animal to keep? The cow or the goat?', and followed with the statement: '. . . no accurate answer backed by accurate scientific data has ever been given'. The same impasse had often been noted before, for example by Dawson Shepherd (2), and Stockdale (3). An unpublished report on Maltese Agriculture by a visiting F.A.O. commission (4) similarly found itself at sea in the absence of any firm information. In 1956, the complexity as well as the obscurity of the situation was manifested in a Report on the Dairy Industry by G. W. Ford (5). In this study, reference is made to the different conclusions reached by independent observers, and to intermediate suggestions made by Marshall (6), one of whose remarks: 'I simply cannot visualise hygienic milk production by the peasant farmer in Malta', our observations would endorse.

Milk-production in Malta is no longer a matter of economics but, as in many countries, is affected by social and dietetic policies. Brief mention was made in Chapter VI C of the problem of the incidence of undulant fever and its association with milk infected by *Brucellosis Melitensis*. Some 20 per cent. of Maltese goats are thus infected, and any dietetic campaign to encourage the drinking of milk, particularly important in child welfare, must take account of this. Few cows are thus far infected and elimination is easier. The problem that emerges is therefore both economic and social in character. It is felt by some that reliance on imported tinned milk is one solution but by others such a suggestion is regarded as humiliating. Another possible line of action is to replace goats with milch cows, and in 1956 a system by which herdsmen were offered one Dutch Friesian heifer in calf for 12 diseased goats actually came into operation. The third possibility is to accept the position as it exists at the moment, or slightly to modify it, and centralise milk distribution thus enabling pasteurisation. This too has been done. Even now however, the cost of tinned milk imports, the cost of producing cows' milk, the surplus of goats' milk, all these as well as the land use point mentioned earlier, still remain to be dealt with. As we shall see, the market for milk called into being as a social measure is now the mainstay of many farmers of all grades. The development of the centralised agency, the Milk Marketing Undertaking has been accompanied by a guaranteed price system. Some 50 per cent. of all milk producers have, as a result of this organising of wholesale purchases, formed their own union the K.M.H. - *'Kumpanija Maltija*

1: Bowen-Jones et al. K-5 (1955-1958) 1961
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234 654 *tal-Halib*'. These bodies have introduced some constant elements into an otherwise chaotic situation but this has also implied a certain rigidity. Sonce the costs of milk production are not accurately known and the costs to the National Economy are ignored one now has an artificial market with artificial prices which must be maintained to prevent economic disaster on the farms. (For such information on production and marketing as is available, the reader is further referred to Chapters X D and X E.)

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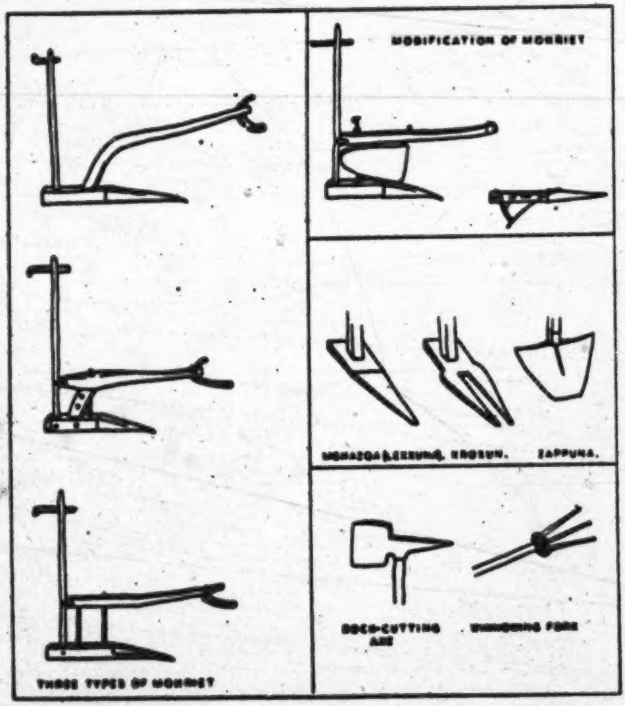

Fig. 140 Cultivation Equipment.

B) Cultivation Equipment and Tillage

Of the implements observed in Malta, the traditional types of plough, hoe, sickle and harrow are of the same genera as those to be generally found in the Mediterranean region (Fig. 140).

Ploughs are of the *Aratrum* or *Ard* type, steel tipped wooden wedges, devoid of cutting edges and having very restricted powers of furrow making or inversion - *moħriet*. None of those observed had lateral 'ears' or 'wings' but apparently ards thus equipped are occasionally used. There are various sub-types with differing arrangements of beam, body and handle but no constant rational relationship between these sub-types and local environments could be observed. Prices range upwards of £4 10s. 0d. Iron or steel tips for the body cost about £1. One interesting modification of the plough is manufactured at Żurrieq. On top of the basic beam and body is fitted a movable double mouldboard of which either or both breasts can be brought into operation at any one time. Ridging and left and right furrow inversion are therefore made possible. For those areas where furrow inversion is practicable such a cheap, light multi-purpose implement would be very valuable, and the development of such improvements might well be encouraged by official approbation.

Hoes are manufactured in four main types. The heavy spade type, the *Żappuna*, is generally used for soil trenching in preparation for manuring. The effort involved tends to restrict its use. The small, single tined, wedge-shaped hoe, the *Mgħazqa* or *Lexxuna*, is a general purpose implement that is replaced under damp and cohesive soil conditions by a forked, two-tined variety, the *Kroxun*. A three-tined hoe is often used, together with the ard, for potato lifting. In general, each cultivator possesses a selection of different types of hoe, necessitated by the variety of manual operations he usually has to perform and made possible by the reasonable prices of the implements (prices range from about 16s. for the single-tine, to 18s. to £1 for the spade hoe).

The sickle in general use is a small, smooth-edged type costing about 12s. 6d. The small number of sickle types observed may result from the widespread practice of pulling rather than cutting green fodder. Traditional harrows are almost invariably of the Mediterranean and Asiatic type, harrows cum levellers and seed coverers. Those observed were triangular and stone weighted. When manufactured for the purpose they were usually constructed of ash and had removable tines. Without metal tines, the cost is about 50s.

These implements, of which illustrated examples are given (Fig.140), have already to some extent been displaced by imported newer types. Most farmers who possess fields which are at all accessible to tractors now periodically hire contractors to plough the land with mouldboard or disc ploughs and even, in some areas, with deep digger-ploughs. Where plots are small or the terrain difficult, then rotary cultivators are hired or purchased. These latter machines, in spite of their relatively high cost - usually over £200 in Malta - are amazingly popular and are more and more replacing the *ard* and the hoe. The reasons for, and implications of this popularity are examined below.

The spade proper is hardly ever used, and its absence is associated with the reasons for the survival of the *ard* plough. Small, light, flexible, metal harrows are to be found. Entirely imported, their only advantages are their flexibility on rough ground and ease of draught. They are, on the other hand, more easily damaged and more difficult to repair than their wooden prototypes. Other equipment includes a great range of fixed and movable adjuncts to farming, all but one class of which are constructed rurally from local materials. The exceptional group is that connected with irrigation and includes windpumps and small diesel engines. Threshing and winnowing, traditional style, needs no more than a rock or *lorbe* (beaten earth) floor and asses or horses for trampling, baskets constructed of local cane, and simple wooden winnowing forks. Of recent years, centralised threshing by contractors' machines has almost entirely displaced the older method in all but the more remote western regions. Canes, grown in slightly marshy conditions in wied floors, provide the raw material for wind breaks, covered forcing beds, crop supports, etc.

1: Bowen-Jones et al. K-5 (1955-1958) 1961
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for wind breaks, covered forcing beds, crop supports, etc. Livestock harness is simple in type consisting of head harness and collar. Working bullocks, now rarely used, are also equipped with collars for traction but the guiding reins are attached to the horns. Country carts are unsprung, wooden frames resting directly on the metal axles. That the ruggedness of their construction is only equalled by the toughness of the draught animals is evinced by their presence on places such as Dingli Undercliff, or the cliffsides of the Wied il-Luq (Buskett).

The solidly built stone huts or *orfa* that are to be found on most holdings may be regarded as part of the farmers' 'equipment' rather than his habitation. The simplest and most numerous are simple one-roomed cubes, some five yards square, strongly constructed, usually of worked stone blocks with wood and *torba* roofs. These 'blockhouses', for such they appear, serve as storehouses for implements and crops, for guns and birdcatching equipment, as well as for shelter during the 'siesta' hours and bad weather. Their cost in construction labour, and the pride that does into the simple furnishing of what is the farmers 'den', as well as the deceptive appearance of dispersed settlement that they give, suggests that further investigation into their origins might prove valuable. In general terms, they seem to be a natural response to the marked concentration of settlement in the casals. They are far less numerous in the western region of more recent and dispersed settlement. The larger, two-roomed and two-storied types are used mainly as summer working residences, when a whole family may move out of its casal to the main holding.

These implements and types of equipment are one facet of the complex of traditional cultivation techniques - techniques based on the intense and continuous application of uncosted hand labour. A brief examination of the working characteristics of some of the implements is a necessary introduction to a discussion of general cultivation techniques.

The *moħriet* (Plate XIX) is used as an animal-drawn hoe rather than as a plough proper. It is light and can be carried by the cultivator along narrow field paths and across rugged terrain. Its negotiability is limited only by the ease of access demanded by the draught animals. The 'rotavator' (Plate XX) alone of modern mechanical implements can rival it in this respect. On coarse soils, often only a few inches deep, cross tilling by hoe or *ard* seems perfectly satisfactory for tilth making. A vertically applied tool such as the true spade cannot be utilised in such soils, while all but the simplest mouldboard ploughs are too clumsy for use in small terraced fields. Both *ard* and hoe are used in garden rather than field style and their only disadvantages lie in the slowness of the work performed. Here lies the especial advantage of the rotavator that can, under reasonable conditions, be used for tilling six *tmien* of land a day as compared with about two or three for the *ard* and one for the hoe. (Figures are necessarily approximate averages.)

Cultivation techniques and the farming landscapes which they have produced are now in a critical stage of development. For millennia, a slowly increasing population has been utilising the natural land resources more and more intensively and also supplementing them by artificial works. Until the early nineteenth century, social and tenurial obstructions to full land use on the one hand, and wealth derived from the overseas possessions of the Knights of Malta on the other, little affected the basic land hunger of the rural community. During the period of British occupation, however, externally derived income has brought with it more and more non-agricultural activity. Opportunities for non-farm work have increased and so has socio-economic dissatisfaction with arduous and limited rural life. The stage has now been reached at which land reclamation and land abandonment, intensification of effort and neglect, are proceeding simultaneously. An examination of those landscape features which are products of farming techniques suggests that this stage is now critical.

Land reclamation and the extension of the cultivable area are still going on. At several points on the Delimara peninsula, material is being carried from the cliff foot and from old huts and dwellings and spread over the existing thin and discontinuous soil cover. On this, sulla as a soil building leguminous crop

[see page 306 -- ANALYST]

1: Bowen-Jones et al. K-5 (1955-1958) 1961
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by himself and will think of net profit on his sales rather than of gross receipts.

The second example is from a case-study (J. p.342) of a full-time mixed farmer holding 33 *tmien* of dry land (three blocks of six field plots) in Region C XX a, the Mqabba-Kirkop Plain. During the last 20 years, this farmer has built up a herd of 13 Maltese Friesian cattle including ten milch cows from a flock of six goats. Before World War II he relied on crop-sales from arable land. Now approximately half the cultivated area is given over to fodder production. Although by Maltese standards this farmer is enterprising, knowledgeable and possessed of much more than average capital, he has no mechanised equipment for tillage but relies on contract work. Each year a tractor plough and rotary cultivator are hired at a cost of between 15s. and £1 per *tomna*. The farmer still differentiates very clearly between the quality of different parts of his land, on the basis of a soil depth which varies from 8 inches to 2 feet, and on soil type distinguished by colour. Nevertheless, since he is now only really interested in livestock, and regards even fodder production as uneconomic, he has lost interest in arable farming and tends to neglect the poorer land and think of disposing of the other. This man is typical of many of the better class farmers in that the old niceties of tillage are forgotten as commercial considerations predominate, these latter a resultant of social and economic change in the Islands.

Lastly we may consider the extreme development, the farmer turned machine contractor. Only half the age of the farmers already considered, this man is much more aware of general developments in the agricultural scene, partly as a result of seven years spent as an 'emigrant' in Australia. Patrimonial land is left to the attention of other members of the family, and he is only concerned with investment in machinery for hire. This contractor now possesses a lorry, a Ferguson hydraulic lift tractor, a hydraulic shovel, triple-disc and mould-board ploughs, a rotavator as well as numerous accessories, and wants to purchase a thresher and a small combine harvester. The whole cultivation emphasis is put on mechanical effort and its ease of application. Deep-ploughing is advocated wherever possible even though he admits 'there may be drawbacks'; no qualms are felt about knocking down walls to gain admittance to fields, and considerable impatience shown towards traditional agrarian and social values. This man even complained that he was not allowed to plough on Sundays. One of his ambitions is the quintessence of the new attitude towards cultivation. It is to have a farm of 30-40 *tmien*, all in one block with no patch smaller than about an acre, the whole to be workable by tractor, thus making hand labour unnecessary, and accessible to heavy machinery. The holding should have its own farmhouse and be near to a market such as Żabbar. In this man the mechanical revolution in cultivation in Malta is epitomised, contrasting strangely with an attitude met at Rabat that the wheelbarrow is too technically revolutionary to be acceptable - 'it is not used here!'

1: Bowen-Jones et al. K-5 (1955-1958) 1961
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E. The Farmers of Malta

From survey work, farm interviews and detailed case-studies we have been able to distinguish certain characteristic types of Maltese farmer. The variety of practice and productivity within the pseudo-peasantry makes it impossible to take general treatment any further, therefore in this section are presented a cross-section of such types. For obvious reasons, we cannot present details which might lead to the identification of any farmer or his landholding.

241

1. THE PART-TIME FARMER

Numerically as important as full-time farmers this group, although heterogeneous, indicates the incompleteness of the recent 'flight from the land'. At the highest level, as in case-study (A), the stability given by a non-agricultural income encourages good land use.

A - A holding of c. 10 *tmien* in two blocks of 19 irrigable field plots in Region AII, Mellieha Isthmus, produces c. 60 per cent. of the cultivator's net income. Irrigated market gardening produces potatoes, tomatoes, artichokes, cucurbits, carrots, cauliflowers, garlic, lemons and table-grapes for sale, and beans, maize, celery and turnips for home consumption. Rents of reclaimed land on Government property are negligible. The farmer maintains that he holds the land partly to support the present family of three and to enable his eight adult emigrant sons to have some 'hobby' land when they return as expected to Malta. Nevertheless, his husbandry standards and commercial acumen are good, his yields high. This type of part-time farmer is neither common nor rare.

B - At the other extreme is a policeman who, in 1950, purchased 14 *tmien* of dry land in Region XVIIIb, ta'Qali, in order to have land to work after retirement. Of this, 10 *tmien* is let out on annual leases, both tenants' and landlord's responsibilities being ignored, and 6 *tmien* is 'cultivated' by the owner, carrying weed infested and diseased crops of wheat, sulla and broad beans. This is symptomatic of unhealthy economic and social conditions, viz. simple land hunger based on insecurity of urban occupations and inadequate pensions.

2. THE FULL-TIME ARABLE FARMER ON IRRIGATED LAND

The time-consuming nature of market gardening and the high value of irrigated *saqwi* land tend either to restrict the total size of holdings or to focus the farmer's attention on such land.

C - In Region XIV, two full-time farmer brothers with three dependants cultivate 7 *tmien* in one irrigated plot (Fig. 111A). One of the brothers returned from temporary migration to Canada in 1913 bringing some capital and ideas. Their equipment consists of hoes, an American windpump and an English diesel pump. There is a well graded irrigation system of three cisterns, overhead and ground level stone channelling. The diesel pump is used for filling the cisterns, the windpump for maintaining the water level. Both farmers share equally the cost of equipment and pumping and have a family arrangement for division of labour and produce. Surplus produce is sold in the Rabat market.

D - A full-time farmer with family of 11, six of whom are adults, working on holding of c. 30 *tmien* in Region A XV a The Blue Clay Basin (Fig. 141). Lives on a main plot of 14 *tmien* on Blue Clay and marl. On the main part of the holding are cultivated irrigated fruit and vegetable crops. The other plots consist mainly of rock, rough grazing and carobs with some vines. Intensive aboriculture is practised with peaches replacing plums and old apple stock being replaced by vines and peaches.
Livestock - 1 horse, 9 sheep, 13 pigs and 3 goats.
Equipment - *mahriet* and hoes. The farmer borrows a 'rotavator' for summer cultivation and has 'access' to lorry and jeep for marketing produce. The dwelling has piped water supply. Irrigation water is obtained from

[231]
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000 already unbalanced total Maltese economy.

241 423 The first aspect of the problem is apparent from the points of definition just made. This is the complex of features which have produced the present landscape of tiny field-plots covering the cultivable parts of the Islands with a patch-work of small farms, each consisting of widely scattered pieces of good, bad or indifferent land. The farmer whose lands form one block is very much the exception.

[433] Yet although the number of constituent plots is often large the average area of the Maltese farm is very small ("Over 55% of the total number of holdings appear to have less than 9 tmien of cultivable land"; B/164 - 1957, p. x) and in many cases is patently insufficient to supply food for the family concerned as well as produce a surplus of crops or fodder (Case V).

241 311 464 The obvious solution of acquiring more land is not always possible, as illustrated by Case V where present and new building severely limits the extent of cultivable land in the vicinity. Moreover much land is going out of cultivation because the hand work required to maintain it is not forthcoming under the current wage/labour conditions. Many fields were built on inaccessible or barren patches of rock in days when manual labour was readily available and cheap, much of it unpaid family labour. Terrace walls were constructed expertly and soil tediously carted, levelled, tilled and irrigated. But while mechanization, particularly

● [409] in the form of now popular small rotary cultivators, is enabling a smaller labour force to cope with more work over much of the Islands, some of these man-made fields defy even this kind of development on account of their small size, tortuous shape or inaccessibility. The terrace walls are neglected. A sudden storm removes a wall section and the soil which it held in place collapses over the terraces below and into the 'wied' bottom whence, in associated flash floods, it may be swept seawards.

423 241 454 The tenurial aspects mentioned (B/525) complicate this picture since they make for further divisions in an already minutely parcellated lay-out. Moreover a farmer is frequently deterred from making improvements on a piece of land if he lacks security of tenure (Case IX): he concentrates any capital outlay on the patches of ground which he either owns himself or has on long lease and which show the necessary conditions of size, accessibility, irrigability (Case XI); or which provide suitable sites for building (Case I).

241 423 Part-time farmers are an increasingly important feature. They neglect or relinquish unprofitable land even more

241 Direct hiring of implements from a contractor as against 30.
474 exchange of labour between farmers is becoming increasingly common, while a recent development has been the tractor co-operative in which a number of farmers share a cultivator or tractor which they own in common.

MECHANIZATION

178 The first large tractors made their appearance in Malta
407 in the 1930s (Case XV, XXII) but "at that time there was a general feeling against the use of such machines on the land and it was about five years before their value was acknowledged and suspicions overcome"[12]. One of the earliest [427] tractor-hire businesses (Case XV) began in 1935 and for a [422] decade there were comparatively few competitors. Since the 1939-45 War however, the number of farmers and others owning agricultural tractos and mechanized implements[24] has increased to about thirty in Malta[25] and some twelve in Gozo (1957). A sample survey of these tractor operators[26], made in 1957, revealed that the number of such machines is still increasing but the work available for them is decreasing. This is clear from a consideration of the points raised in Cases XV to XII (Section 6, Part 2).

The main points emerging were

(a) There are too many large tractors for the work available. In some cases, Government control was recommended (Case XVI), while in Gozo it appeared the contractors had themselves limited their own spheres of operation by agreement (Case XXII).

(b) The great increase in the number of hand-operated rotary cultivators was fast putting the large tractors out of business for two reasons

(i) the machines are small, more manoeuvrable in tiny fields and can be used during the greater part of the year - even in wet weather,

(ii) costing only some few hundred pounds they can [654] be bought by large numbers of individual farmers - especially since low-interest loans are now available from the Government.

(c) The limited area of land suitable for working with a deep-plow in the Islands. Many fields are too small or too inaccessible for such big machinery - though they can comfortably accommodate the small rotary cultivators.

(d) The exclusion of tracked vehicles from public highways (unless 'shod' or moved by lorry) irritates the contractors who frequently have to travel long distances between asignments (Case - XVII).

178 (e) The high costs of fuel (Case - XVII) and the
407 frequent need of spare-part replacements on account of damage.

(f) The increasing area being put to vines (Case - XX).

The advantages of tractor-plowing to the farmer include

407 (i) the speed of operation, in contrast with the
427 traditional single-furrow wooden-plow working. Costs are therefore relatively cheap. They average about 15/- per tomna for tractor plowing and about £1 per hour for the hire of a threshing machine. Rotary cultivators can them-
[461] selves be hired at between 10/- and 12/- per hour. A job which would take a mule and plow a whole day is done in a matter of minutes by the mechanical plows.

407 (ii) the tractor-plow, or the rotary cultivator,
461 make it possible for one man to work a larger area than if
464 he had to rely on his own labour and hand-implements (Case - XX). To this extent such mechanization is solving the problem of labour shortage.

427 For the contractor himself there is a social as well
554 as financial profit deriving from his machines. He has come to be regarded as rather higher in the social plane than the hand-labouring farmer. But his financial status is also clearly far above that of the field worker with no implements and his remuneration per man/hour of effort far
[221] greater despite the limitations outlined above. The main disadvantage is the short plowing season over some three summer months or less. Some contractos hire their machines and services to builders and others out of the plowing season (Cases - XIV and XVII) while others own a threshing machine which brings in further contracts in the summer (Case XVII).

178 From what has been said it would appear that the large
407 tractor is not the answer to the labour problems of Maltese
427 farming, although it may bring considerable profit and
[434] advancement to the few dozen operators themselves. The present decline in this type of contracting has been noted. Charlton (B/381) maintains that this decline would be greatly accelerated if there were any large-scale return to the land in the near future. The small hand rotary cultivator is meeting with much more success and looks like going much further along the way to enabling a time/money conscious Maltese farmer to cultivate an adequate area with little or no paid hand-labour. Even this is however clearly limited by the point made earlier that the Maltese farming landscape has been built up by hand labour and much of it can only be maintained by that same meticulous attention.

407 472 474 Many of the large tractor plowing concerns described above are run by two or more men, often brothers, in partnership. A much more recent development of this kind has been the 'tractor co-operative' in which a much larger number of farmers share the use and expenses of a cultivator of tractor. By the end of 1958 one such co-operative had been established in Mellieha in Malta, and another at Gharb, in Gozo.

407 474 648 Those two projects are attempts which, if successful, may be followed by the setting up of other similar co-operatives. Two powerful hand cultivators were donated by C.A.R.E[27], the American relief organization, to a committee of farmers in Mellieha and two more to a similar group in Gharb. In each village farmers wishing to join [427] the co-operative paid a fee of some £2 after which they were entitled to hire the machine at a fraction of the prevailing commercial hire cost. In Gharb this was 10/- an hour where other private tractor operators were demanding 17/-. The C.A.R.E. gifts of tractors removed the need for the farmer himself to invest capital in something novel. He stood only to gain and not to lose and there was, consequently, fierce competition for the limited membership of the co-operative. Maintainance of the machines was in each case left to a full-time operator, while the running of the co-operative was in the hands of an executive committee of some half dozen farmers in each case who were elected from among the members concerned. This kind of organization in farm work is quite new to the Maltese farmer who has previously been incapable of uniting to any degree, whether in a marketing co-operative or farmers' union (Section 4). If the Mellieha and Gharb projects prove successful the principle of such co-operation may well extend to other branches of agriculture. The resulting financial economies would considerably strengthen the farmer's position.

407 474 A co-operative of any sort is, however, a somewhat unknown quantity among a largely illiterate and conservative farming population not far removed from traditional independent subsistence. Moreover, until recently, mechanical skill has been confined to the small number of farmers operating tractors themselves. In the Gharb co-operative only two men were available who could in fact operate the machines at all.

Although it is too early to judge the efficacy of this kind of co-operative in Malta its initial success would suggest that it has a future. The answer to the problem of shortage of labour discussed earlier in this section may then well be a combination of the widespread owner-use of one or other of the small rotary cultivators on the market along

407 474 with the setting up of co-operatives which would make available to the farmer the services of a heavy tractor and deep-plow on hire as required and would enable the very small-scale farmer and the part-timer to hire the smaller type of cultivating machine at low cost in cases where he does not wish or cannot afford to purchase his own cultivator.

SUBSIDY and GUARANTEE

435 241 654 During the 1939-45 War the Maltese Government offered farmers in the Islands very high guaranteed prices for produce handed in to the collection centres in each district. Farmers enjoyed for a brief period prosperity they had never known before and were able to build up often considerable financial reserves (Cases VI, XII).

434 435 241 654 Following this precedent the farmer today, under quite different conditions of competition from abroad, demands a guaranteed income for the work he expends on crop and milk production. He insists that responsibility for this subsidy and guarantee falls, as in war-time siege years, on "Il-Gvern", the Government. He overlooks the fact that his produce cannot in many cases hope to compete with foreign goods on price. He is in fact not concerned as to who buys his produce so long as "Il-Gvern" organizes its export and marketing and gives him a substantial return.

654 The Government, for its part, realizes the difficulties which the farmer in Malta and Gozo has to face and is thus confronted with a choice of policy. Should it favour the consuming Maltese public by giving them the cheapest possible foodstuffs (which would often mean imported goods rather than Maltese home produce) or should it protect the farmer by subsidizing his profit and guaranteeing his sales - at least in part? Official policy has of recent years tended to do both these things. The ration of basic commodities (bread, sugar, farinaceous paste, and butter) allows everyone in the Islands to obtain a part of the food they consume at low, subsidized prices, over and above which they are at liberty to buy on the open market.

The aid-to-farming programme is still more recent and is by no means yet old enough for all its ramifications and possibilities to be clear. So far it has included four main types of help to agriculture.

234 654 (a) First there is the guaranteed price to herdsmen for milk (of adequate fat content) supplied to the M.M.U. This varies slightly with season and there is a difference of a few pence between cows' and goats' milk. The average of some 5/- or 6/- per gallon to the producer amounts to some 8d per pint produced. Now the M.M.U. sells

178 241 407 464 (3) On account of those same physical limitations mechanization of field-work cannot be expected to solve all labour problems in Maltese agriculture. An initial, over-optimistic emphasis on large tractors and other heavy machinery has given way to a rapid increase in the number and popularity of the small rotary-cultivators. But even this cannot be expected to displace completely the wooden plow and hand implement working (Section 2).

However, mechanized farm implements, particularly the small, manoeuvrable rotary-cultivator type of hand tractor, have enabled a reduced number of farmers to work their fields more intensively, and, in some cases, to increase the area worked by a single individual.

The neglect of those aspects of farming where manual work is dominant and necessary have, nevertheless, accompanied this change with the bizarre result that intensification of effort and neglect are proceeding simultaneously (B/336).

178 434 (4) A basic factor in the present situation, in which the young farmer is retreating from farming, has been the emergence of a demand for money income (Section 3). The traditional pattern of peasant, subsistence farming in which the main object was the support of the farmer and his family has been replaced by a money-conscious outlook in farming. The farmer now expects his farm to produce a profit with which he can

(a) purchase those items no longer produced on his farm or by his family (clothing, bread etc., etc.),

(b) purchase items which have recently become part of his regular demands and for which money is a sine qua non (property, farm machinery and equipment, clothing, preserved and other imported foods and drinks, recreation, transport, etc.),

433 511 Food, as an item of family expenditure, nowadays figures especially prominantly

(a) where the income derives mainly from milk sold to the M.M.U. and where the land is put, almost exclusively, to fodder,

(b) among part-time farmers (a very rapidly growing element of the farming community in recent years) who concentrate on fodder crops because of the comparatively little labour involved and the generally good market prospects.

178 434 But of greater significance in the long-term view is the fact that these new demands for monetary gain are a particularly prominent feature among the present younger generation of the farming community. For them a substantially increased income is synonomous with social and economic betterment. Since they do not envisage such an increased income coming from farming they are all the more anxious to leave the

*159 fluctuation. In such a situation he would find fixed
443 annual repayments on loans for development much more difficult to meet.

SUMMARY OF CASE II

*159 (A goats milk producer with subsidiary cash-cropping).

A. Land.

[423] [427] Rents 10 separate plots, all dry land, in the Qawra Region.
Several landlords; total rent including house (£8.10.0) £35 p.a.

B. Utilisation.

[241] [311]
- Attention devoted mainly to fodders: wheat, barley, sulla.
- Grapes, some tomatoes and a few potatoes for sale.
- Various vegetables for home consumption.
- Grazing on waste and abandoned land.

C. Livestock.

[231]
- About 25 goats: 2 rams and 23 milkers all over 2 yrs. old.
- 20 hens, 5 pigs, 1 mule.

D. Capital.

[423] [454] [412] [409] [426] [427]
(i) No freehold land.
(ii) Little or no liquid reserve.
(iii) Equipment: usual hand implements; no mechanical equipment until 1957 when he bought a rotary cultivator at £350 with a government loan to be repaid at £62 p.a.
- Hires tractor and plow at 15 to 25/- per tomna.
- Borrows spray from brother.

E. Labour. (v. Table 4: Analysis of Work Record, 1957-58)

[464]
- No permanent hired labour.
- Help from wife and children (8 children, all below 14 yrs. of age, 4 at school).
- Employs a vine-grafter at 25/- a day when necessary (150 vines can be grafted in one day).
- Pays friends and relatives £1 daily for help at grape harvest.

F. Production and Sales.

[234] [43] [231]
(i) 22 goats (Nov. 1957) yield 3 gallons of milk daily which sells at 16/9 (5/7 per gall.).
- Keeps only milkers as no accommodation for rearing.
- Female kids sold for breeding fetch 7/- each, male kids sold to butchers when 15 days old fetch same price.
- Buys 3 to 5 goats annually to maintain herd - price in 1957 £10 each.
- 5 pigs includes 3 for meat, 2 for breeding: piglets weaned after 40 days and sold a week later.

[245] [434] [244]
(ii) Vine shoots bought from Govt. Farm at 28/- per 100. Grapes sold to vintners. Price takes no account of quality.
- In 1957 sold 30 qantar at 44/- per qantar = £66.
- Tomatoes, small quantities sold, but bulk of crop made into paste for home use.

G. Husbandry.

[245] (i)
- Much effort expended on vines. Pruned in January, when 2 yr. old shoots cut back.
- Grafting in February; new grafts produce small crop the same year.
- Sprayed, plowed (3 or 4 times) in May.

*159 443 484 521 Shopping is done in the local village but Nardu makes the journey to Valletta for the 'Fuq il-Monti' Sunday market occasionally, though with the intention of gossipping rather than making purchases.

CASE III : Summary

(A goats' milk producer.)

*159 423 **A. Land.**

30 Tmien in Naxxar-Gharghur Hills area.
14 Field plots in two main groups;
All on soils of tad-Dawl and l-Iklin Complexes.
Of this - 5½ tmien freehold,
- 24½ tmien leased from 6 landlords.
Rents range between 10/- and £1 per tomna.

*159 241 311 **B. Utilisation.**

Almost entirely fodder production e.g. February 195
3 plots under widna.
1 plot under barley - pulled green.
3 half plots under wheat.
2 half plots under sulla.
1 plot used for goat grazing - fallow.
1 plot under ~~fofafa~~ (bitter vetch).
1 enclosure under prickly pear.
3 plots under vetches.
Remainder subdivided and carrying potatoes, broad beans and a few vegetables.
[434] Only regular cash crop - winter potatoes.

*159 231 **C. Livestock.**

During 1957/1958 goat numbers ranged from 35 to 50 and milkers from 27 to 40.
5 sheep kept for wool and sheeps milk for cheese-making.
1 mule - imported from Tunis.

*159 [423] [454] [412] [407] **D. Capital.**

- Land held in freehold valued at £400 in early 50's.
- Freehold village house.
- According to his own statement liquid reserves of £200.
- Equipment - hand tools, local wooden plows, etc. No machinery but plans to buy rotary cultivator.

*159 464 **E. Labour.**

- Wife spends c.30% of her time on the land, although childrens ages range from 3-8.
- Communal help for threshing.
- Hires labour for barley and sulla cutting. During 1957 c.18 man days at cost of c.£15.
- [427] Every 4th year deep plowing (by contract) of about half the fields. Cost £1 to 15/- a tomna.
- Each year has some land tilled by rotary cultivator. Cost 12/- a tomna.

*159 433 **F. Production and Sales.**

- Goats milk sales range from February minimum of c.45 lbs. per day to May-August maximum of c.70 lbs. per day.
- Winter potatoes as cash crop vary considerably in yield and in selling price.
- Occasional sales of small quantities wheat and wool
- Produce consumed by family valued at c.£1 per week.

*159 241 **G. Husbandry.**

(i) Land - All dung used on fields - usually before potato setting.
- 7-8 bags of sulphate of ammonia applied annual
- The concentration on leguminous fodders prove the employment of the normal four-year rotat

C. Livestock.

159 231 234
- 50 goats
- 2 cows, 3 calves, expecting to add 3 imported Friesians at c.£140 each.
- Chickens: buys unsexed chickens at 30-40/- for 50 in the hope of gaining egg producers. (Sexed females would cost 112/- for 50).

D. Capital.

159 42 454
- The farmhouse and buildings are owned, though the exercise yards are rented (v. Map 8).
- Seems to have a small capital reserve but is unwilling to spend this on equipment, which he prefers to buy with the aid of a govt. loan.
- Some £1200 amassed during the war has now been largely spent, in part on the house but mainly on purchase of stock.

[409]
- No mechanical equipment apart from a motor-pump bought for £68 in 1948.
- Tractor plows hired at £1 per tonna when necessary.

E. Labour.

159 464
- No permanent hired labour, but two youths employed at 10/- each per day, all found, for c.3 months of the year, and occasional hire of neighbours' sons.
- Full time workers: the farmer and his married son: no female labour is employed.
- The farmer is the only one of 7 brothers who have remained in farming.

F. Production and Sales.

159 43
- Goats' milk to M.M.U. varies between 5 and 10 galls. daily, plus c.7 galls. cows milk. Probable income from these sources well over £1000 p.a.
- Against this must be set considerable expenditure on fodder, records of which are not kept. Sulla may cost up to £300 p.a. Straw may cost up to £125 p.a. Beans and cake at £3.10.0 and £2.18.6 per qantar respectively.
- Secondary small sources of income include "private sales" of milk, sales of vegetables and manure.

These incomplete accounts suggest a modest profit, but this has not prevented disappearance of war accumulated capital reserves. (See D: Capital).

G. Husbandry.

159 231 234
- Feeds according to yield. Large scale purchases of fodder necessary, despite quite careful attention to holding.
- Feeds vegetables (including potatoes) when these are cheap owing to glut; when this is done, bean ration is reduced.
- Rations are doubled for cows in calf.
- Cows are exercised in yard but never grazed.
- Goats grazed on waste and fodder fields.

H. General.

159 433
- When asked whether he considered himself to be herdsman or farmer, replied that he might be regarded as a "general dealer" in crops and animals.
- In fact his enterprise is overwhelmingly directed towards production of milk and is yet another dependent on the guaranteed milk price.
- Fields are definitely secondary, though well-tended and are primarily for the provision of fodder.
- This farmer appears to make a modest profit from his enterprise, but has no appreciation of the costs involved.

159 - Has a higher opinion of his ability as a stock farmer than facts warrant.
156 - Aims to build up cattle herd in place of goats since he assumes (with no factual background) that profit will be greater.
[231] - Much influenced by personalities and is willing to accept advice uncritically if the person giving it is, in his opinion, sound.
- Lacks educational background and experience necessary to make a real profit from his herd, but seems content with present living conditions.

CASE VIII : Niklaws (A working partnership of five brothers with diversified production)

*159 492 Niklaws is the primus inter pares in a permanent partnership [423] of five brothers. The syndicate farms some 70 [234] acres and, in February, 1957, had a herd of thirty cattle. There is some division of labour among the five, with one being acknowledged the expert on cattle, another "knows most about the fields", and a third the driver and general business manager. Both their father, who died in 1915, and their grandfather were farmers but the brothers have considerably added to the holding.

*159 492 234 433 The emphasis of the partnership is now heavily on cows' milk production. They retain only two goats. With about 20 cows in milk they aim to produce some 50 gallons a day - Niklaws observes that the yield from cows can be maintained while that of goats fluctuates markedly with the seasons. Costs of cows' milk production are also steadier, says [232] Niklaws, with fresh greenery in the winter and prickly pear in the summer months as supplements to the standard items of diet. The fodder produced on the brothers' own fields has to be supplemented by purchased feed but judicious use is made of vegetables in glut, especially cauliflowers which could be bought by the farmer at 1s per sack in early 1957.

*159 407 454 234 [429] Mechanization on the farm includes the hiring of a mould-board and tractor to deep-plow the land every fourth year (cost - £1 per tomna), and the hiring of a threshing machine. The brothers themselves own two hand cultivators and a small van, complete with the partnership insignia on the door. Currently much capital is being put into building a large, two-storey cows' shed within the village. The brothers aim to centralise their milk herd here and plan to have an adjacent exercise yard and water tank. At present their animals are divided among three widely separated byres, although all of these are easily accessible by road - and the van. [435] One of the existing sheds was built between 1949 and 1952 at a cost of "£3,000". On the costs of the present building Niklaws will divulge nothing. His attitude suggests that the money is coming from saved reserves rather than a loan, for he appears reluctant to borrow money even on low interest terms "because anything might happen to prevent the money being repaid."

159 241 (ii) The intensive summer utilisation of the land for unirrigated summer vegetables is characteristic of this region. Tomatoes and brassicas are dominant. Vetches and beans are grown as catch-crops in small patches. This type of cropping sequence i.e. potatoes, vegetables, cereals, sulla, is typical of well-developed Maltese mixed-farming.

159 231 234 C. Livestock.

(i) c.33 head of cattle including 20-22 milch cows, 1 stud bull, 2 bull calves for fattening.
(ii) 2 goats, 1 mule, 1 pony, 12 hens.
(iii) The cattle-herd has been built up since 1940.

159 [472] D. Capital.

(i) The accepted leader of this partnership enterprise is typical of the more commercially minded and successful Maltese farmers in that he was prepared to discuss anything except financial details. The amount of capital of property and even the details of land-holding of this "kulak" class is known accurately by nobody.

[407] [343] [454] (ii) Equipment includes 1 van, 1 hand tractor, 2 water pumps and two large cattle byres. At local values, farm buildings and mechanised equipment represents over £8,000 investment.

[426] (iii) This partnership prefers to indulge in small-scale family borrowing and lending rather than to use official-and controlled- credit facilities.

[423] (iv) Two village houses and over 3 tmien of land are owned freehold.

159 464 407 429 E. Labour.

(i) Partnership labour force totals 6 full-time farm-workers (5 brothers and 1 adult son).
(ii) A youth employed full-time with cattle.
(iii) All plots are deep-plowed by crawler tractor every fourth year at cost of £1 per tomna.
(iv) On this relatively level land a varying fraction of cereal reaping is done by machine. Machine cutting costs £1 a tomna, hand harvesting £3 a tomna. Hand cutting is less wasteful of straw but these farmers have a rare appreciation of the importance of the time-element in their complex economic and land-use system.

159 433 F. Production and Sales.

(i) The only certain information obtainable is of sales of cows milk. During 1957 minimum daily sales averaged 283 lbs. during May, and the maximum of 350 lbs. during March was almost matched in August and the following January. This constancy of sales based on a firm intention to allow production to vary but slightly from an average of 30 gallons a day from 20 milch cows is rarely found in Malta and is typical only of a few technically advanced and commercially minded farmers.

159 43 (ii) The partnership although possessing a stud bull usually buys cows in milk (preferably Ayrshires), a 'good' yielder costing c.£210. Breeding and raising heifers if regarded as unprofitable.

(iii) The main sales of arable produce consist of summer cauliflowers and tomatoes. In an effort to avoid the usual glut of summer brassicas considerable importance is attached to extending the season of production into autumn and winter. Price variations are considerable e.g. In 1956 cauliflower prices dropped to 1/- a sack while in 1956 they had risen to 20/- a sack.

159 231 The cattle are very mixed in breed including "Bastard-Inglizi", supposedly pure Friesians and crosses between the two.

159 D. Capital.

421 (i) No freehold property.

[423] (ii) In perpetual debt, no reserves and frequent borrowings, particularly from the Government.

[454] (iii) Equipment - usual hand tools

[407] - rotary cultivator bought with a Government loan of £550, repayable at £100 p.a. plus 1% interest.

- small motor van, bought in 1953, for [312] transport of milk.

- no piped water until Feb. 1958.

159 E. Labour.

464 - No permanent hired labour.

- One man and his daughter together at 30/- per diem and one youth at 25/- engaged at busy times.

- Family labour: two partners and their two eldest sons work full-time and there is additional help from wives and children.

159 F. Production and Sales.

434 - Income almost entirely from sale of milk to M.M.U. Production varies greatly: June 1957: 50 galls. daily; Dec. 1957: 35; Feb. 1958: 80. Sold at 435 5/6 to 6/- per gall.

- Male calves sold to butcher at £10; females sometimes sold at £30-£40 to pay debts.

- No accounts kept of feeding costs. These include one truckload of prickly pear (30/-) daily from June to October, beans at 55/- per qantar and cake at 46/- (July 1957). A considerable amount of grazing is carried out e.g. on sulla bought green at £6 per tonne.

- Potato sales insignificant and in 1957, owing to glut, [433] involved a loss.

- Vegetables produced are all consumed by the families.

159 G. Husbandry.

231 (i) - The importance attached to grazing of cattle is unusual. (Most Maltese cattle are stall-fed all the year.)

- The emphasis is on numbers of stock rather than on their quality. The turn-over from goats to cattle has been helped by the government exchange scheme and by Govt. loans.

[232] - Occasional outbreaks of disease unnoticed until too late.

[241] (ii) - Crops are often neglected owing to time involved in animal husbandry.

159 H. General.

234 The partnership is attempting to profit from guaranteed 829 milk prices without the knowledge or skill to do so. The herd seems to have been built up beyond the numbers which can be properly tended by the labour available.

There is little knowledge of modern methods and still less of costs and returns. The view is firmly held that "cows yield according to the amount they are fed" and the reply to the question "How much fodder is required to produce a gallon of milk was "Min jaf?" (Who knows?).

The partners are extremely conservative in their attitude to marketing, suspicious of outside interference and [426] hostile towards the idea of co-operatives. Yet they expect continued Government assistance.

Their general pessimistic attitude is summed up: "Il-biedja f'Malta spiċċat" (Farming in Malta is finished).

Despite guaranteed milk prices on which the whole economy is based, the partnership is permanently in debt.

159 434 454 is not encouraged by this situation to invest his capital in any improvement for which no immediate return is apparent. Ġamri has, however, put a large amount of money into pigs and would seem to regard this as a better investment than putting his money into capital equipment for his fields. He has in [407] fact no mechanical equipment, although his brother has a rotary cultivator which Ġamri hires at a reduced rate of 16/- per tonna (instead of £1) for his own holding. No charge is made when the machine is used on the joint holding, in which case Ġamri contributes to the cost of fuel.

159 511 262 Expenses within the household are difficult to determine since so much of the food eaten by the family comes from the fields worked by Ġamri and his brother. This includes vegetables, fruit, salads, melons. Tomato paste (kunserva), a common element of diet throughout Malta, is home-made in this case. The two goats and two sheep supply the family with milk; though tinned milk is normally bought in for babies as required. Milk pasteurized by the M.M.U. is not bought. They occasionally buy in a little cheese, but most of this, and all eggs, are produced on the farm. Fish is caught from time to time by Ġamri himself, but some, such as tinned tuna, is bought. Poultry and rabbits for the family table are from the farm stock but some small birds, such as quail, are shot ('hunted') for roasting or stews. A home-made wine is supplemented with purchased soft drinks, notably the ubiquitous "Kinnie". Other items purchased include meat and ham, coffee, jams, biscuits and luxury confectionery (for special days such as first Communions, Confirmation, etc), olive oil and olives, together with the rationed goods (1958) -butter, bread, sugar and farinaceous paste (għaġin). Ġamri observes that the rationed (subsidized) supplies are usually insufficient for the family so additional quantities of these items have to be bought. In the case of bread, for example, these more costly off-the-ration purchases bring [354] the total weekly bill to some thirteen shillings. The sole means of cooking and heating is paraffin (petrolju), as throughout most of the rural areas of the Islands, and the family spends about 3s 6d weekly on this. Heating is not considered essential even during the coldest part of the winter when the family "close the door" (Ġamri).

159 262 [369] The diet of the family is essentially typical of rural Malta. In some details this differs from that found among urban working classes in the Islands but these differences are of emphasis rather than content. Thus the countryman tends to consume potatoes, the produce of his own farm, where the townsman relies for the bulk element of his diet on paste, notably Italian spaghetti and macaroni. An important factor is religion and its fasting and other restrictions. [785] Fasts are of three types (i) the Lenten Fast - "In the old

159 829 181 198 Valletta as a mysterious other-world to be entered cautiously and very occasionally by the humble and bare-foot farmer.

Ġamri is typical of the section of the farming community in Malta and Gozo which has absorbed an education beyond anything in previous generations but whose age prevents them taking the lead into any kind of Maltese farming reconciled with current social, economic and technical changes. He is "too old now to move from farming", but he is encouraging his children to acquire the education which will help them to escape from the land altogether.

CASE X : Summary.

159 423 (An arable farmer (Ġ) in partnership with his brother and engaged in diversified production.)
(Details refer to Ġ alone unless otherwise indicated.)

427 **A. Land.**

- Ġ has an interest in 17 plots totalling 62.5 tmien; of this, 53 tmien is rented by the partnership.
- One large plot of 21.5 tmien, the remainder ranging from 1.0 to 8.0 tmien.
- All within an area of c.1 sq. mile in the Binġemma Basin and in Ġnejna, on a variety of soils, mainly Terra Rossa and Carbonate Raw Soils.
- 41.0 tmien owned by private landlords, 9.6 by the Church, 6 tmien by the Government, and 3.2 by Ġ's father.
- Rent approx. £30 p.a. varying from 8/- to 14/- per tomna.

159 241 **B. Utilisation.**

- The full range of crops grown in a complete year (1957-8) is shown in Table 6 (WORK ANALYSIS).
- In summary:

Fruit and vines	20.9	tmien
Cereals and fodders	17.9	"
Potatoes	6.2	"
Other vegetables	4.9	"
Fallow or unproductive or let 'bin-nofs'.	12.6	"
	62.5	tmien

159 231 **C. Livestock.**

- Relatively unimportant in early 1957, but a herd of pigs is being built up and in 1958 numbered five sows and their litters.
- One mule.
- 2 goats, 2 sheep; milk is purchased as these do not supply family's needs.
- 2 dozen hens, rabbits.

159 423 454 **D. Capital.**

(i) - No freehold land apart from one small patch of roadside waste.
(ii) - Recent investment in the construction of pig-sties.
(iii) - Cash reserve of £400 in April 1958 represents a reduction of 50% on reserve held a year previously; £200 spent on building up pig herd and accommodation for same; remainder covered deficit on year's farming and special expenses e.g. road surfacing, hospital expenses etc. Ġ expects to build up his cash reserve again in ensuing years.

159 409 427 (iv) - Equipment:
- Usual hand tools, cart, etc.
- Ġ owns no mechanical equipment but his brother's rotary cultivator is used on the joint holding, Ġ

*159 ●407 427

paying his share of petrol and oil but making no payment for use of the machine. When used on Ô's personal holding, a charge of 16/- per tonna was made, compared with normal charge to outsiders of c.£1 per tonna.

- 4 yearly deep plowing by contractor at 25/- per tonna.

E. Labour.

*159 464

- Ô's 8 children all below school-leaving age contribute relatively little. His brother, however, has 3 sons working with him and his family provides more than half the labour on the joint holding.
- Flexible use of this labour force as:

(a) Joint holding worked by partners and Ô's nephew.
(b) Land held by Ô, deriving from wife's family, farmed by Ô and eldest nephew.
(c) Land held by Ô's brother, deriving from his wife's family, farmed by himself and his two younger sons.

*159 461

- A detailed work schedule was kept for the agricultural year 1957-8: see Table 6 - WORK ANALYSIS.

(a) Work on crop land, including cultivation, manuring, sowing, irrigation, crop protection, harvesting and transport of produce:-

(i) On joint holding:	Fruit	1740	man	hours
	Vines	489	"	"
	Cereals & Fodders	1437	"	"
	Potatoes	868	"	"
	Other vegetables	505	"	"
(ii) On Ô's own holding	Vines	444	"	"
	Cereals & Fodders	222	"	"
	Vegetables	65	"	"
(b) Other work connecting with holding		109	"	"
(c) Repair of storm damage		160	"	"
(d) Building of pig sties		100	"	"
(e) Miscellaneous		677	"	"
	Total	6816	"	"

In short a total of 6816 man hours is applied to c.60 tmien of land (excluding contractors' plowing etc.) an average of 113 man hours per tonna.

*159 434 241

F. Production and Sales.

(1) - Details of yields of individual crops not available, but cash income from sale of crops 1956-7 was as follows:-

	From partnership land	From Ô's land	Total
Fruit	£340	-	£340
Grapes	£ 49	£ 8	£ 57
Sulla	£ 13	£15	£ 28
Potatoes	£ 12	-	£ 12
Melons	£ 11	-	£ 11
Tomatoes	£ 7 (est.)	£13	£ 20
Totals	£432	£36	£468
Ô's share	£216	£36	£252

*159 241 433 434

- This represents a poor year; potatoes prices low, sulla yields below average, glut of fruit.
- Yields and income vary greatly from one field to another. Valuing the proportion of the crop retained at same level as that sold, e.g. sulla yielded from £6.10.0 to £15 per tonna, fruit £28 per tonna,

*159 829 178 [554] [793] [626] [177] [794] [651] As village-weighman he has a high social standing in the district. His literacy, spacious house, and herd of cows further enhance his status. He maintains that within the village the place of the Parish priest is as ever it was "in spite of the new learning". He notes that the increasing number of dissenting voices in the village are kept firmly in their place by the pressure of public opinion but that political rivalry, a comparatively recent feature in the village, is growing. The returning emigrant brings new ideas - including some on religion - but the strength of the Church remains much less questioned than is the case in the towns. Censu shares the still general view that money given to the Church is "payment towards the good of the community". Money paid to the Government in the form of taxes would, on the other hand, be regarded as an imposition bringing no benefit to the individual, and therefore to be avoided.

CASE XII : Summary.

*159 (A cows' milk producer and village weighman.)

*159 423 427 A. Land.

33 Tmien in Mqabba-Kirkop Plain:
4 Field plots in 3 parcels, on Terra Rossa Soils and Xero-Rendzinas.
All leased from 2 landlords: Total rent £34 per annum.

*159 24 B. Utilisation.

Over 5 Tmien wasteland.
Main concentration on fodder, which accounted for 74% crop area in 1957/58, as against only 33% in 1956/57 winter season.
2 tmien under barley - pulled green.
3 tmien under sulla.
6½ tmien under vetches.
5 tmien under wheat.
c.10 tmien under potatoes.
Remainder under vegetables, prickly pear and fallow.
Main cash crops potatoes and onions.

*159 231 234 C. Livestock.

Late 1957 - 13 head of cattle (10 milch cows, 2 calves, 1 service bull). All Maltese Friesian. 10 goats; 1 ewe; 2 horses; 50 poultry; rabbits.
This herd was built up from 6 goats, 4 sheep and 1 cow in 1938.

*159 [423] [454] [407] D. Capital.

- No freehold land. Owns large village house.
- No statement as to capital reserves but general evidence suggests a sum of the order of £1500.
- Equipment - no machinery, but normal range of local tools.

*159 464 [465] [429] 741 [407] E. Labour.

- Family labour - one 30 year old son.
- In 1956 male hired labour amounted to 60 days, and female to 90 days.
  Cost - men c.£1 a day, women c.14/- a day.
  Hand labour almost entirely for sowing during autumn and winter and harvesting in early summer.
- Hires heavy tractor plow, rotary cultivator and threshing machine each year. Costs of contract plowing 13/- to £1 a tmien.

*159 rejection of his village background, and his attitude to
159 agricultural and other authorities in the Islands all mark
829 him out as apart from the 'traditional' kind of farmer. At the same time, however, his case reflects the frustration and impatience of his own generation in the agricultural community.

*159 He comes of a village family in which his father and
423 paternal grand-father were both butchers. His father acquired
167 a small farm of some two acres to provide vegetables for the
199 family but neither Ġanni nor his brother, a few years his
241 junior, was keen to expand the family holding. The family
[441] butchering business held no more attraction for them and was relinquished by the father when he retired from full-time work some years ago to run a small bar in the village. Both the brothers thought that neither butchering nor farming presented scope for money making so they emigrated to Australia. Ġanni's seven years there left him unsympathetic towards farming as practised in Malta, with its fragmentation, hand-labour and other limitations. He saw mechanization on the Australian pattern, with tractor-drawn, three-furrow plows, combine-harvesters and a variety of other large implements, as the only way to make Maltese farming a profitable venture.

*159 He returned home full of ideas of making money as a
199 contractor-plowman. His native knowledge of Maltese farmers
241 and farming left him with no illusions as to possibilities.
● 409 Ġanni's subsequent efforts to find takers for his deep-plowing have entailed a hard fight against prejudice and criticism. Clearly many of the objections raised as to his methods and machines being unsuitable for Maltese conditions have not been without foundation but he has pushed ahead, working over a larger area, buying new types of machinery, etc.

The present discussion is concerned less with the technical details of this kind of heavy mechanization in Malta than with the attitudes which it reveals - especially the tremendous gulf in outlook between the older farmers and the few <u>young</u> men like Ġanni who are still making some effort in Maltese farming. It is held that these latter are more important than their present numbers would suggest since, without their sustained effort, an economic and social continuity will be lost. They are individuals upon whom some new or improved farming could be built in Malta and Gozo.

*159 <u>Ġanni's view of farming in Malta.</u>
241 "Farming in Malta is today generally uneconomical
829 because of the high costs of the necessary hand-labour and because of the difficulties facing the mechanization of field-work" (Ġanni). He attributes what he regards as the present dismal prospect of Maltese agriculture to the lack of a guaranteed exportable crop, on the one hand, and to the lack of direction to the farmer from the agricultural authorities, on the other. Nevertheless he believes that neither

181 rend of successful experiments of one kind or another in a
241 foreign land - he will only be satisfied with conclusive proof
829 before his own eyes. Moreover the farmer often finds it hard to convince himself that some expert or high-ranking advisor on affairs agricultural can in fact be working for the benefit of the farmer and not himself. This is something new in his experience.

Mechanization.

*159 Ġanni and his brother work their machinery contracting
●407 business together, doing all but the biggest repairs. They
422 have (1958):
429 (i) a three-furrow (previously a two-furrow) mould-board
472 plow, the only one in the district,

(ii) a triple disc-plow (originally a double) for heavy ground,

(iii) a rotavator. Originally the brothers had a small rotavator but they complain that this does no more than kill off the weeds for a short time and harden the soil just below the rotavated surface. In 1958 they were buying a 5' trailer with 4 revolving claws which met with much derision from local farmers because of its weight.

(iv) a three-ton truck,

(v) a twelve-tined harrow,

They are keen to add (1958) a thresher and a small combine harvester which "might work in Malta with effect". Ġanni would rather "import a combine than let £1000 lie idle in the bank, unlike most other farmers". "New machinery soon pays for itself and is the way to make money in Maltese agriculture today". He advocates tyred tractors for Maltese conditions as they are easier to get out of rough ground and more convenient to cope with road transit. Many farmers prefer the caterpillar-tracked type (v. Case XV). He maintains that the tyred tractor is better even for the deep-plowing which he advocates. This deep-plowing has grown in popularity only
465 slowly - Ġanni is fully aware that "there may be drawbacks", but he reckons to work his four-month season each year to the full, earning about £5 per day on six days per week. The rest of the year is taken up with contract work with the machinery on building and other sites together with some attention to the few fields held by the family. The area covered by the brothers in their plowing operations extends to something like a quarter of the area of Malta (v. B/381).

Ġanni and the village.

*159 Ġanni is an outsider in his own village in so far as his
156 literacy, travel and, especially, his Australian experience and his 'new ideas' have put him socially out of touch with his fellow-villagers. He maintains enough of a link with the village (through his father) to be able to live there and

*159 156 461 626 517 493 make money, but he has little sympathy for the older people around him and they in their turn regard him as a social (as well as economic) rebel. He takes little part in the social life of the village. Work is his first concern and he is most annoyed when the priest, with whom he has "not been on speaking terms" since his return from Australia, forbids his working on Sundays. This includes even repair work on the machinery indoors. He knows well enough that were he to plow on Sundays or fests days he would be "publically ostracised and no villager would hire him and his plow". His relaxation is his motor-cycle on which he escapes at high speed from time to time along with others of his generation who "have eyes for the lights of Valletta rather than farming".

*159 156 593 Towards his own parents Ġanni's attitude is typical. He regards his father as belonging to the old generation of illiterate or semi-literate countryfolk, steeped in the conservatism of the past and the traditional. Father and son argue continuously over points of policy - with Ġanni tending to assume that his education and wider experience entitles him to something of a 'casting vote' in such arguments. Nevertheless the family tie is there and is strong enough for Ġanni to have an innate respect for his father despite the gulf in education and ideas. Thus Ġanni supported his father's scheme to plant some cotton even though he himself doubted the profitability of this move (1958).

*159 156 [583] Marriage in Malta, where the "evil dowry" ('data') system is maintained, holds little attraction for Ġanni. He observes that he cannot take a girl out on his motor-cycle without the older people of the village criticising him for not marrying her first. This and the whole social climate of village life in Malta of which it is part clashes with the ways he learned in Australia and with the ideas and beliefs which his education and his knowledge of the world outside the village of his birth have brought him.

Ġanni is primarily important to the village because he is staying there. He takes little part in village affairs, he does not "bother about festas", and he has few close [198] friends in his age group of farmers. But his ideas and the new methods and implements which he has brought to the village in face of considerable opposition and ridicule are a significant item in the changing scene of Maltese farming.

CASE XV

*159 472 407 OUD Three brothers work together as a team. Their father works the land full-time and the brothers join him when their joint tractor-hire business is not claiming their attention. Their mechanical activities began some twenty-two years ago and now extend over more than a sixth of the area of Malta. They appear to have been among the first in the tractor

They appear to have been among the first in the Trade 'business' and note that when they started there were only some half dozen large tractors already in use in Malta.

When the original tractor was imported along with a trailing plow it was found very difficult to negotiate the tortuous Maltese country tracks. They have since shortened the fitment and adapted it for carriage high above the ground in transit. Unlike CASE XIV these brothers maintain that the 'crawling' type of tractor is better suited to Maltese conditions than is the wheeled as it can cope more easily with rough ground and with mud.

Although they have no competitors in the immediate vicinity, they complain that:

(i) The introduction of the small hand rotary cultivator in recent years has caused a set-back in their business. It is clearly a less unwieldy implement for many small or narrow fields than is the large tractor and one which is cheap enough for a farmer to purchase fairly easily. However the brothers have increased the variety of special fitments which they can operate with their tractors and have thus to some extent retained their business.

(ii) There are at present too many large tractors for the work available. The brothers would be pleased if several of them would go out of business.

CASE XVI

Two brothers have three wheeled tractors, a threshing machine and two rotary cultivators. Holding only some three acres of land themselves they depend primarily on their tractor-hire business which they began, with a single tractor, shortly before the 1939-45 War. At present business is declining for the reasons mentioned in CASE XV. One of the brothers insists that the Government should prohibit the import of any more tractors into the Island in an effort to reduce the competition. As for rotary cultivators they observe that these implements can be used almost all the year round and are better suited for general cultivation work than is the tractor-drawn deep plow.

CASE XVII

A plowman with two large tractors (both 'caterpillar' tracked and one converted into a bulldozer), this Case illustrates some further points. He acquired his first machine early in the 1939-45 War and has built up his business so successfully that he now farms only a single acre himself relying for his income on the profits of the short plowing season and on his contract work throughout the year with his bull-dozer. His area of operation stretches from St. Paul's Bay in the north of Malta to Benghajsa in the extreme south, where he works for at least two full weeks per year. He also hires his threshing machine in widely scattered parts of the Island. This occupies him for some two months each summer.

His major complaints are (i) the high price of diesel oil, and (ii) the fact that tractor operators are forbidden by law to drive their machines on public highways. On the question of 'over-lap' between contractors he wants the Government to delimate areas of operation for each man, an impracticable suggestion which would, he imagines, remove the necessity for his having to seek work at great distances from his village. His attitude on this point contrasts with his desire to import a new threshing machine as soon as possible.

CASE XVIII

In this case, a farmer works his tractor-hire business in conjunction with a friend. He bought a Chalmers tractor shortly before 1939 and has recently acquired a second machine - an Olivier. The area which he and his partner work with their tractors and 14" plow has become more limited of late on account of the increased use of rotary cultivators, especially as these are often user-owned.

159 492 407 499 He insists that the Government should stop imports of new machines in face of the present decline in the demand for contract deep-plowing. He sees himself and many farmer-contractors like him going out of business in the near future.

CASE XII

[178] This farmer (working 35 tmian, including seven irrigable) was among the first to acquire machinery in the 1930's. He speaks of the slow start made in deep-plowing on account of the suspicion of most farmers who continued to use the mule or horse-drawn wooden plow exclusively for some years. Mechanized plowing is now fully accepted, he says, and, for the contracting plowman, is still a most profitable venture despite the present fierce competition for business.

CASE XX

154 407 241 434 Whereas CASE XIV-XIX have concerned plowing and threshing contractors whose own fields are of secondary importance as a source of income, this man is typical of the growing number of farmers who see mechanization as the means whereby they themselves can cultivate a large holding. With his single tractor he cultivates some 35 tmien single handed and supplements his income from this holding by only a limited amount of contract-plowing in the summer season.

[245] [178] He notes that a further reason for the decline in demand for the deep-plow on contract is the recent increase in the area under vines (due to the steady demand for wine-grapes by local vintners).

CASE XXI

159 256 241 407 472 [477] This Gozitan is a part-time contract plowman whose main occupation is not farming but baking. His father was a salt-seller but this business went to a brother shortly before the 1939-45 War whereupon this man decided to go in for full-time contract plowing and threshing. For many years he remained the sole such operator in his village and business grew. However in the present decade competition from new tractor operators has "halved the work available in the summer plowing season" for his plows and threshing machine. This prompted him to build a bakery in 1954 to which he has since devoted all his time. However the tractor and threshing machine are still retained and are worked by a son as the demand arises.

CASE XXII

159 441 472 407 [191] Another Gozitan, this English-speaking and astute man is not himself a contract plowman but is a dealer and agent for tractors, rotary cultivators and other agricultural machinery. His father began the import of tractors to the Island, but these were wheeled and soon found to be unsatisfactory for local conditions. The first 'crawling' tractor was introduced in 1939 and has since been found to be well suited to the steep paths and fields and the small plots in Gozo, especially in wet weather. Since 1951 the use of rotary cultivators has spread rapidly through the Island and has led to a sharp decline in the work available to the deep-plowing tractors. Of twelve of the latter at present in the Island some three or four are normally unused in the season. This agent sparks of an agreement among the tractor operators of Gozo to limit individual spheres of operation during the 1957 plowing season.

[178] Like CASE XIV this man has been prepared to introduce new implements. His father was the first to import motor pumps (1920), while he himself brought in the first cultivator in 1951. His latest idea has been the import of harvesting machines, but the very limited success of the first ten which he brought in has discouraged him from buying any more. He observes that the fields of Gozo are too small for mechanization on this scale and that the harvester leaves a lot of straw in the ground which the farmer insists must be collected for animal fodder.

● 407 (iv) MECHANIZED IMPLEMENTS owned by farmers, 1956-57

IMPLEMENTS	MALTA	GOZO	TOTAL
Tractors - under 10 horse-power.....	15	11	26
Tractors - over 10 horse-power.....	26	6	32
Hand Cultivators - under 10 h-p.....	592	74	666
Hand Cultivators - over 10 h-p.....	54	19	73
Harvesting machines - under 10 h-p..	16	1	17
Harvesting machines - over 10 h-p..	1	-	1
Threshing machines - under 10 h-p...	2	-	2
Threshing machines - over 10 h-p...	13	4	17

162 241 (v) FARMING POPULATION.1956-57

	MALES	FEMALES	TOTAL
Full-time farmers.....	6,512	1,301	7,813
Part-time farmers.....	6,834	2,954	9,588
Farming population not in farming (over 14).....	5,777	14,694	20,471
Children (under 14).....	10,246	9,795	20,041
Total.....	29,189	28,744	57,913

46 241 (vi) DAYS WORKED on farms (in Man/days). 1956-57

	M/1.2E	FEMALES	TOTAL
Full-time farmers.....	full	full	2,343,900
Part-time farmers.....	part	part	340,221
Hired labour.....158,515		28,401	186,916
Unpaid farmers' relatives... 43,718		5,718	49,388

162 (vii) FARMERS as PERCENTAGE of Total Population. 1871-1957 (v.A)

	FULL-TIME FARMERS					as % TOTAL POPULATION				
	1871	1901	1931	1948	1957	1871	1901	1931	1948	1957
Urban	342	415	307	325	224	.55	.40	.27	.22	.17
Fringe	3923	2259	2181	1618	1150	13.7	5.9	4.25	2.1	1.37
Inner R.	5026	4224	3597	2404	1795	18.8	13.1	8.7	5.15	3.8
Rural	4856	4791	4602	4273	3133	27	21	15.6	10.8	7.8
Outer R.	1763	2200	3002	2805	1511	30	30	31	23	13.9
TOTAL	15910	13889	13689	11423	7813	11.3	7.5	5.15	3.7	2.48

NB: - Sources - 1957 full-time farmers (R/164 - 1957)
- 1957 Population (R/168)
- other data (R/167)
- See also Map 2, and Graph

162 46 241 (viii) PART-TIME FARMING (R/525, p.112)

	1901		1956
"Farmers".....	5038	Full-time Farmholders..	4706
"Part-time farmers"..	500	Part-time " ..	5337
		Other Farmholders.....	1388
TOTAL.....	5538	.....	11431
No. of Holdings.....	9178	.....	12640

(ix) FARM LABOURING (R/525, p.11[illegible] Farmholders, labourers, field workers as % total.

	1842	1861	1881	1871	1881	1891	1901	1911	1921	1931
Farmholders %...	27.2	19.7	17.1	20.2	19.1	37.4	38.4	47.9	41.1	47.3
Farmworkers %...	71.9	78.4	80.9	68.1	79.5	61.4	60.4	51.4	56.9	51.1
Total workers %...	100	100	100	100	100	100	100	100	100	100
On land (000's)...	12.8	13.4	10.8	15.9	18.0	15.6	13.9	16.2	16.3	13.7